The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FUMIKI MORIMATSU,
SHINICHIRO KATSUDA,
MIKAKO SATO,
and
MASAYO NAKAGAMI

Appeal No. 2002-2215
Application No. 08/952,475

ON BRIEF

Before GARRIS, DELMENDO, and MOORE, Administrative Patent Judges.

DELMENDO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 (2002) from the examiner's final rejection of claims 3, 4, 7, 10-13, 16, and 17, which are all of the claims pending in the above-identified application.

The subject matter on appeal relates to a meat product.

Further details of this appealed subject matter are recited in representative claim 11 reproduced below:

> 11. A meat product containing as lipids approximately the same content of vegetable oil and animal fat, said meat product comprising:
> (a) a fat content of less than half of that present in conventional meat products, and
> (b) 8 to 10g of soy protein isolate per 100g of meat product,
> wherein the meat product possesses a plasma-cholesterol-suppressing property.

The examiner relies on the following prior art references as evidence of unpatentability:

Helmer et al. (Helmer)	3,309,204	Mar. 14, 1967
Bonkowski	5,164,213	Nov. 17, 1992

James Giese, "Developing Low-Fat Meat Products," Food Technology, Apr. 1992, at 100-08.

Claims 3, 4, 7, 10 through 13, 16, and 17 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Giese. (Examiner's answer mailed Apr. 30, 2002, paper 21, pages 3-4.) Separately, claims 3, 4, 7, 10 through 13, 16, and 17 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Bonkowski and Helmer. (Id. at page 4.)

We affirm these rejections.[1]

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[1] The appellants submit that the appealed claims stand or fall together. (Appeal brief filed Jan. 11, 2002, paper 20, p. 3.) We therefore confine our discussion to claim 11, the sole independent claim on appeal. 37 CFR § 1.192(c)(7)(1997).

The Rejection Based on Giese

As pointed out by the examiner (answer, pages 3-4), Giese describes low-fat meat products that are believed to lower plasma-cholesterol levels in consumers. (Page 100.) Specifically, Giese teaches ground beef patties containing 0 to 30% fat and isolated soy protein. (Pages 101, 103.) According to Giese, various binders and extenders, including soy proteins and plant (e.g., soybean) oils, may be added to compensate the loss of juiciness and mouth feel when fat is reduced. (Pages 102-03.) The advantages of soy protein are said to be its ease of use and familiarity, as well as its ability to provide a nutritionally complete protein. (Page 103.) With respect to plant oils, Giese teaches (id.):

> The replacement of beef fat with partially hydrogenated plant oils was evaluated by Liu et al. (1991). The rational of this replacement is that hydrogenated plant oils have the advantage of being cholesterol-free and contain higher ratios of saturated to unsaturated fats compared to beef fat. Corn, cottonseed, palm, peanut, and soybean oils were partially substituted for beef fat in low-fat ground beef patties to improve nutritional content. The samples containing hydrogenated corn or palm oil were comparable to all-beef patties in cook loss and overall acceptance.

Giese does not teach the relative amounts for each of the components as recited in appealed claim 11. Nevertheless, the examiner held that "[f]inding the optimum amount and ratio of

vegetable oil, animal fat and soybean protein to be included in the meat products would require nothing more than routine experimentation by one reasonably skilled in this art." (Answer, page 4.)

The appellants' main argument, on the other hand, is that "[t]he presently claimed vegetable oil/animal fat ratio is neither taught nor suggested" by Giese. (Appeal brief, page 5.)

The appellants' argument does not persuade us of any error in the examiner's analysis. When both isolated soy protein and plant oil (e.g., soybean oil) are used as the binders or extenders in Giese's meat products, one of ordinary skill in the art would have found it prima facie obvious to determine, through nothing more than routine experimentation, the optimum amounts for each of the additives to provide a meat product that minimizes plasma-cholesterol and maximizes "juiciness and mouthfeel." In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980)("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

The appellants urge that certain experimental data in the specification (Tables 6 and 7, page 11) demonstrate results that are neither taught nor suggested in the prior art. (Appeal brief, pages 3-4.) In particular, we note that the experiments compare Test Variable #1 (equal amounts of animal fat and vegetable oil) against Test Variable #2 (vegetable oil only) and Test Variable #3 (animal fat only). Like the examiner (answer, page 5), however, we find that the relied upon evidence is insufficient to establish unexpected results over the prior art. In this regard, we agree with the examiner's determination that the relied upon evidence does not compare the claimed invention against the closest prior art composition, which includes both animal fat and plant oil (e.g., soybean oil). (Page 103, third column.) In re Baxter Travenol Labs, 952 F.2d 388, 392, 21 USPQ 1281, 1285 (Fed. Cir. 1991); In re De Blauwe, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984); In re Merchant, 575 F.2d 865, 869, 197 USPQ 785, 788 (CCPA 1978).

In addition, the appellants have not identified any evidence establishing that one of ordinary skill in the art would have considered the results shown in Table 7 to be truly unexpected. It is not enough to show that there is a difference in results for the claimed invention and the closest prior art; the difference in results must be shown to be unexpected.

In re D'Ancicco, 439 F.2d 1244, 1248, 169 USPQ 303, 306 (CCPA 1971); In re Freeman, 474 F.2d 1318, 1324, 177 USPQ 139, 143 (CCPA 1973).

Moreover, the appellants have not established that the relied upon evidence, which is limited to a composition containing 10.0% animal protein, 10.0% vegetable protein, 38.3% corn starch, 20.0% sucrose, 5.0% cellulose, 1.0% vitamins, 3.5% minerals, 0.2% choline bitartarate, 6.0% animal fat (lard), and 6.0% vegetable oil (soybean oil), is commensurate in scope with appealed claim 11, which is not so limited. In re Kulling, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (Fed. Cir. 1990)("'[O]bjective evidence of nonobviousness must be commensurate in scope with the claims.'")(quoting In re Lindner, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972)); In re Dill, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979)("The evidence presented to rebut a prima facie case of obviousness must be commensurate in scope with the claims to which it pertains.").

Because the appellants have not successfully rebutted the examiner's prima facie case of obviousness, we uphold this ground of rejection.

Bonkowski and Helmer

Bonkowski describes low calorie, low cholesterol muscle meat products. (Column 1, line 6 to column 2, line 12.)

Bonkowski further teaches a frankfurter obtained by combining 30.15 kg of 95% lean beef, 20.00 kg of 95% lean pork, 43.50 liters of water, and 7.35 kg of a brine mixture (containing 29.55% isolated soy protein). (Example 2.) According to Bonkowski, the ratio of brine to muscle meat may be as high as about 1.5. (Column 11, lines 42-57.)

Bonkowski does not teach the use of vegetable oil as in the invention recited in appealed claim 11. To account for this difference, the examiner relied on the teachings of Helmer, which teaches the incorporation of 3-30% by weight of vegetable oil (e.g., soybean oil) into sausage compositions for the purpose of increasing sausage emulsion stability. (Column 1, lines 10-28; column 2, lines 4-16; examples.)

Given these teachings in the prior art, we share the examiner's view that the subject matter of appealed claim 11 would have been prima facie obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103. Specifically, it is our judgment that one of ordinary skill in the art would have been led to include an optimum amount of vegetable oil into the frankfurter emulsion of Bonkowski, with the reasonable expectation of increasing the stability of the emulsion.

The appellants argue that "Bonkowski shows utilization of soy protein in meat products and reduction of their cholesterol

contents, but does not disclose any cholesterol-level suppression property in vivo." (Appeal brief, page 5.) As admitted by the appellants, however, Bonkowski expressly teaches that fat and cholesterol are reduced without adversely affecting the organoleptic properties of the meat. (Column 1, line 67 to column 2, line 6.)

The appellants allege that "the ratios of vegetable oil to animal fat shown by Helmer are quite different from those contemplated by the present invention." (Appeal brief, page 5.) We note, however, that Helmer's teaching regarding the addition of 0 to 30% of vegetable oil into sausage compositions is not limited to any fat amount. Accordingly, one of ordinary skill in the art would have reasonably expected that the advantages of adding 0 to 30% by weight of vegetable oil as described in Helmer would also be applicable for Bonkowski's frankfurter composition. Moreover, as we discussed above in the rejection based on Giese,[2] the appellants have not established any unexpected criticality for the claimed weight ratio of vegetable oil to animal fat. In this regard, it is well settled that "[w]hen an applicant seeks to overcome a prima facie case of

[2] Our discussion concerning the insufficiency of the appellants' proffered evidence of unexpected results, as applied to the rejection based on Giese, is also pertinent here and is therefore incorporated by reference.

obviousness by showing improved performance in a range that is within or overlaps with a range disclosed in the prior art, the applicant must 'show that the [claimed] range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.'" In re Geisler, 116 F.3d 1465, 1469-70, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997)(quoting In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990)).

Because the appellants have not successfully rebutted the examiner's prima facie case of obviousness, we uphold this ground of rejection.

Summary

In summary, we affirm the examiner's rejections under 35 U.S.C. § 103(a) of appealed claims 3, 4, 7, 10 through 13, 16, and 17 as unpatentable over: (i) Giese; or (ii) Bonkowski in view of Helmer.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

Bradley R. Garris)
Administrative Patent Judge)
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Romulo H. Delmendo) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
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James T. Moore)
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